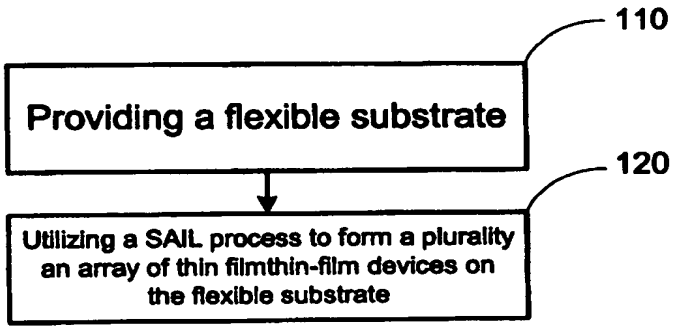

110
Providing a flexible substrate
120
Utilizing a SAIL process to form a plurality an array of thin filmthin-film devices on the flexible substrate

Figure 1

2/13

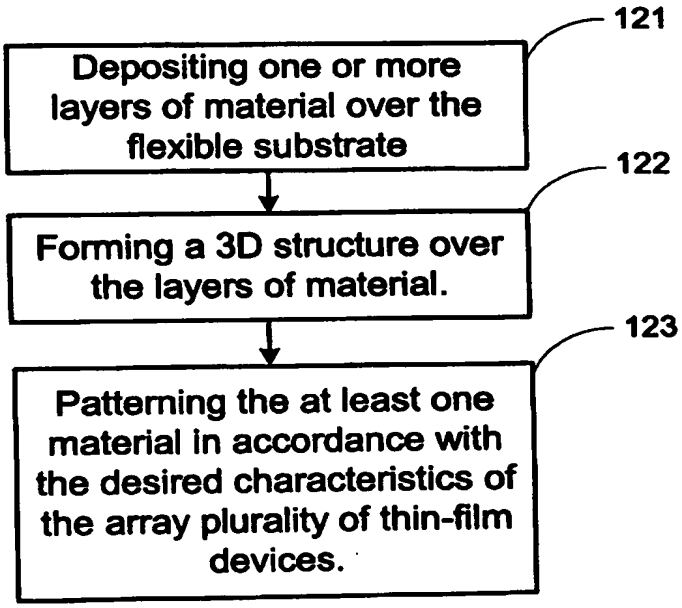

121
Depositing one or more layers of material over the flexible substrate
122
Forming a 3D structure over the layers of material.
123
Patterning the at least one material in accordance with the desired characteristics of the array plurality of thin-film devices.

Figure 2

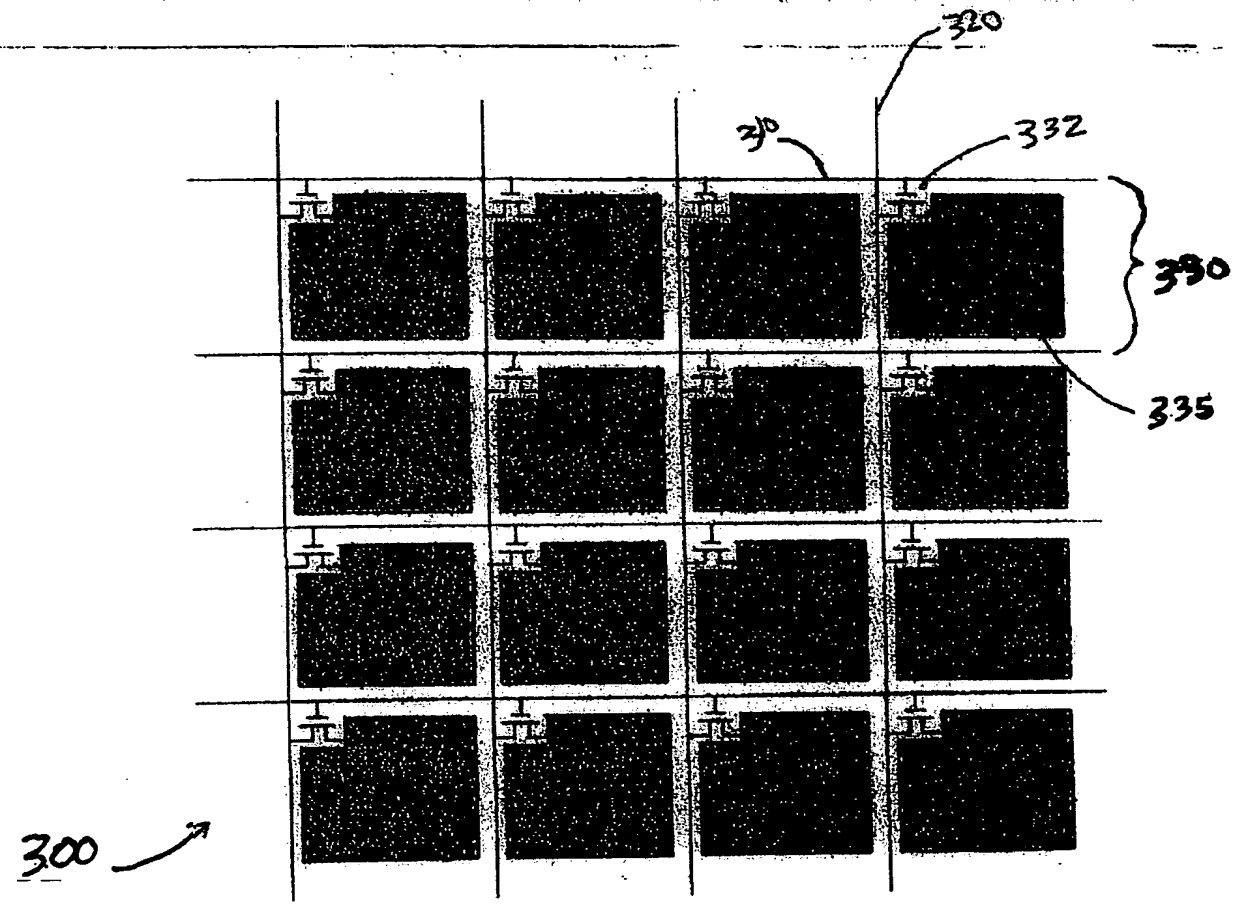


Figure 3

400

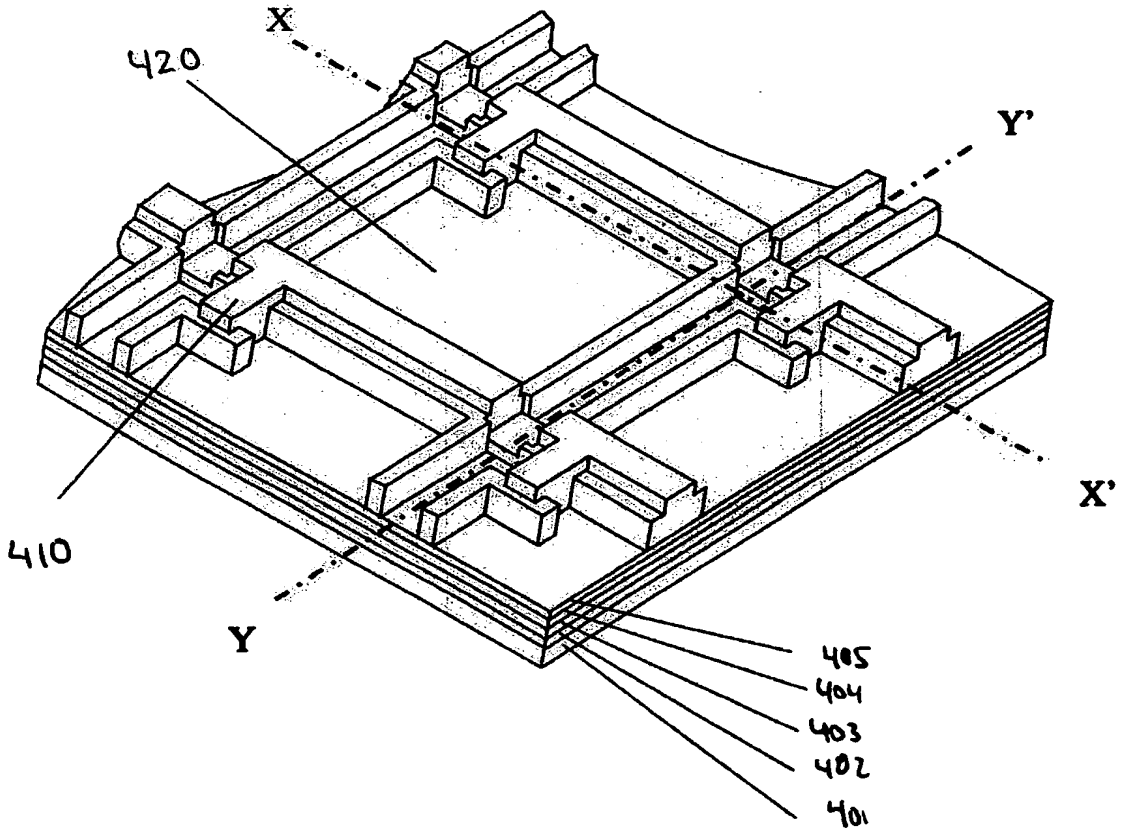


FIG 4

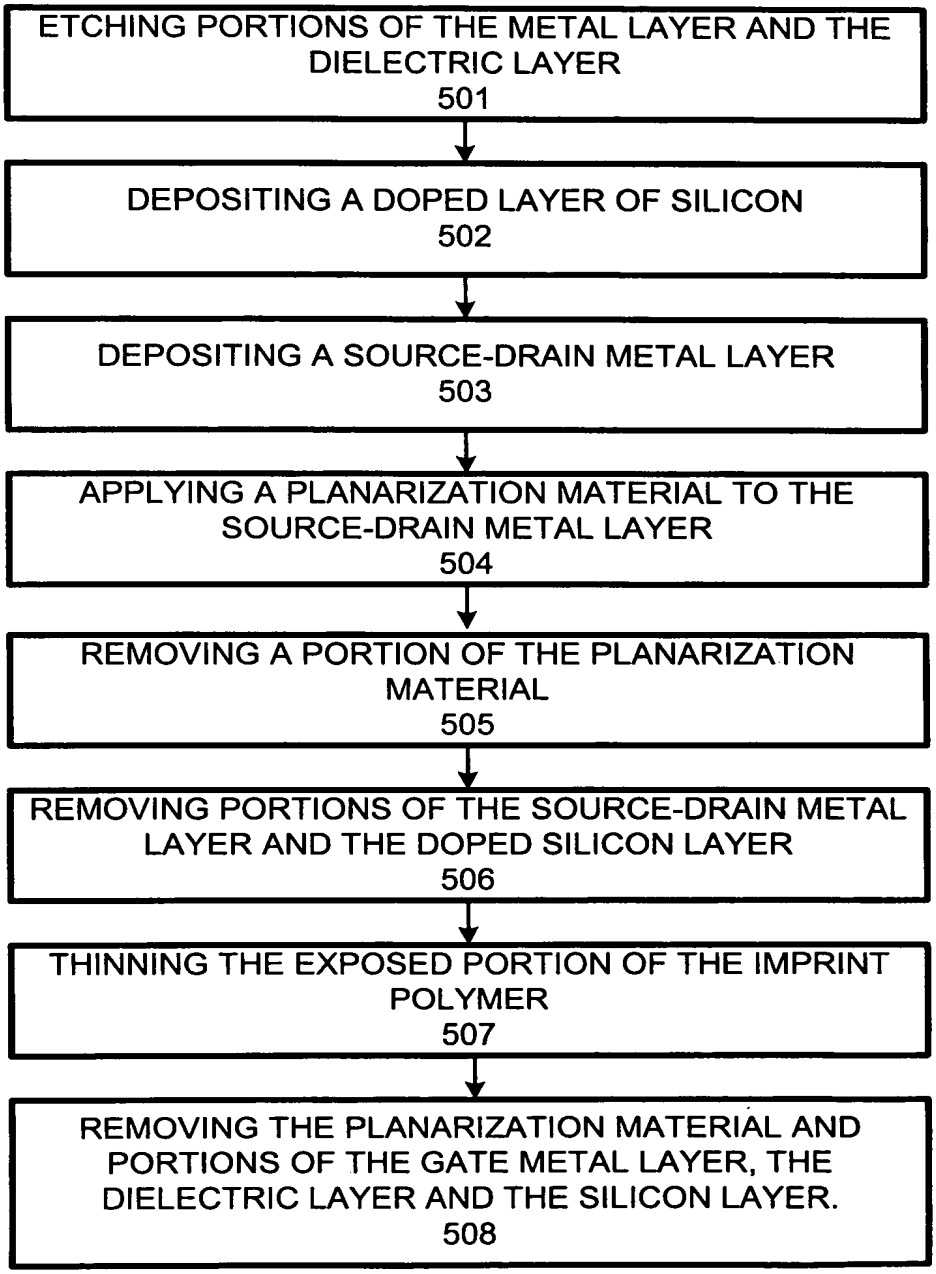
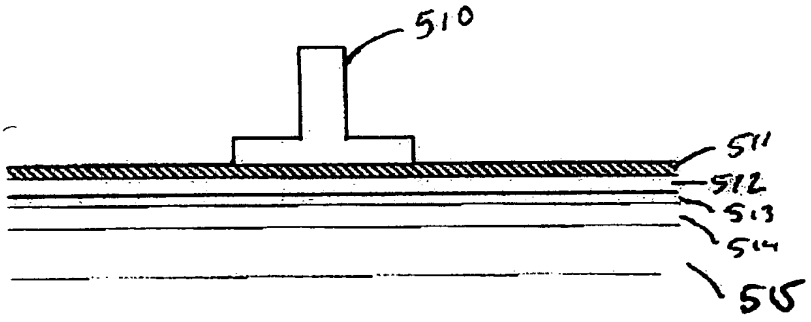
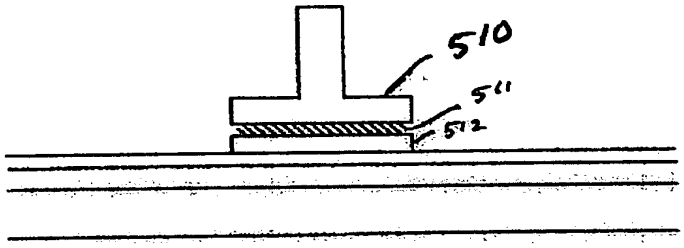

ETCHING PORTIONS OF THE METAL LAYER AND THE DIELECTRIC LAYER
501
DEPOSITING A DOPED LAYER OF SILICON
502
DEPOSITING A SOURCE-DRAIN METAL LAYER
503
APPLYING A PLANARIZATION MATERIAL TO THE SOURCE-DRAIN METAL LAYER
504
REMOVING A PORTION OF THE PLANARIZATION MATERIAL
505
REMOVING PORTIONS OF THE SOURCE-DRAIN METAL LAYER AND THE DOPED SILICON LAYER
506
THINNING THE EXPOSED PORTION OF THE IMPRINT POLYMER
507
REMOVING THE PLANARIZATION MATERIAL AND PORTIONS OF THE GATE METAL LAYER, THE DIELECTRIC LAYER AND THE SILICON LAYER.
508

FIG. 5

5(a)



5(b)



5(c)

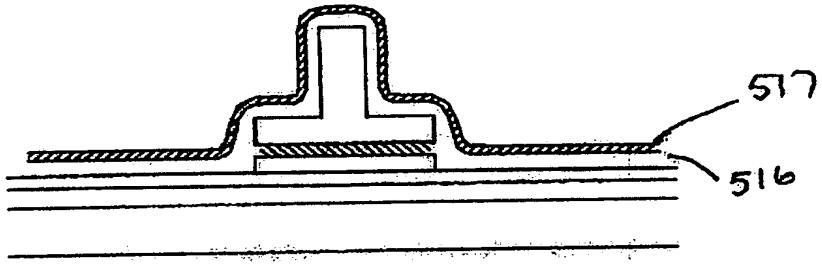
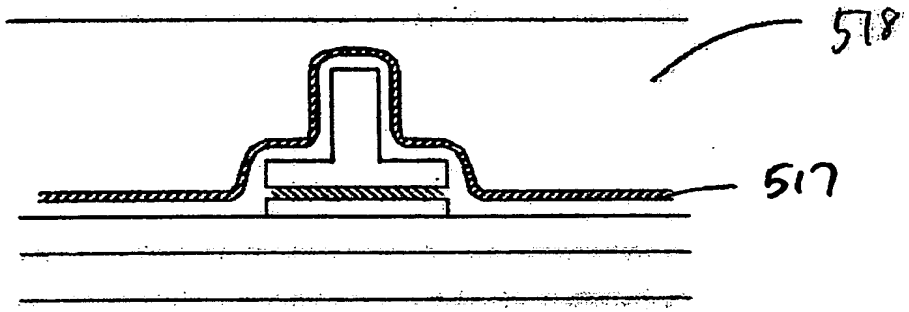
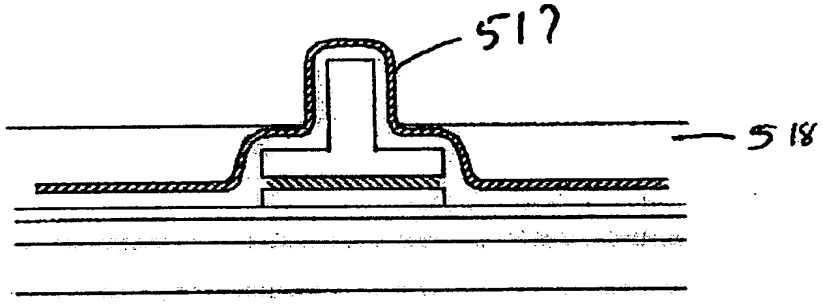


FIG 6

5(d)



5(e)



5(f)

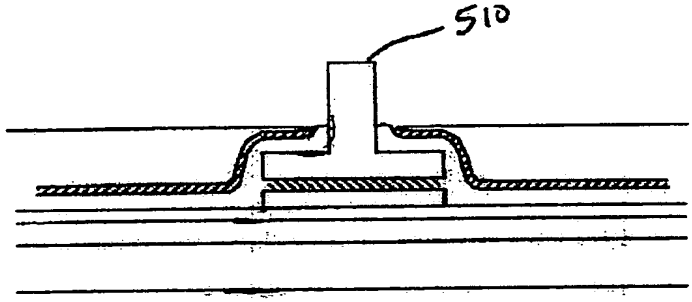
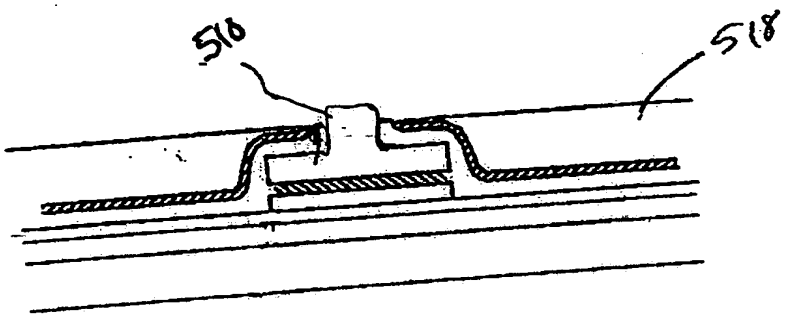


FIG 7

5(g)



5(h)

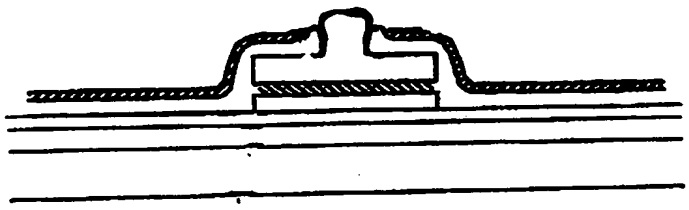


FIG 8

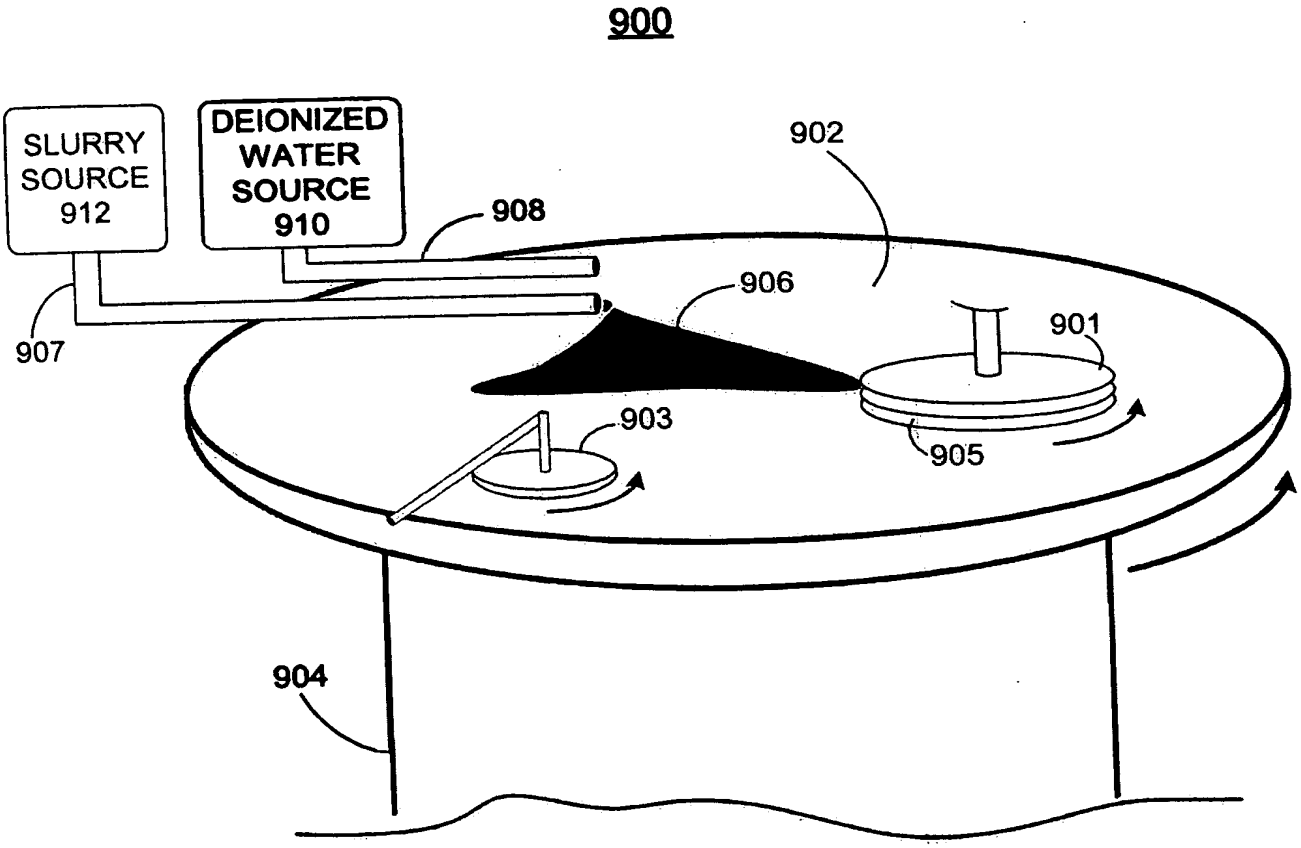

900
SLURRY SOURCE 912
DEIONIZED WATER SOURCE 910
902
908
906
907
901
903
905
904

FIG. 9

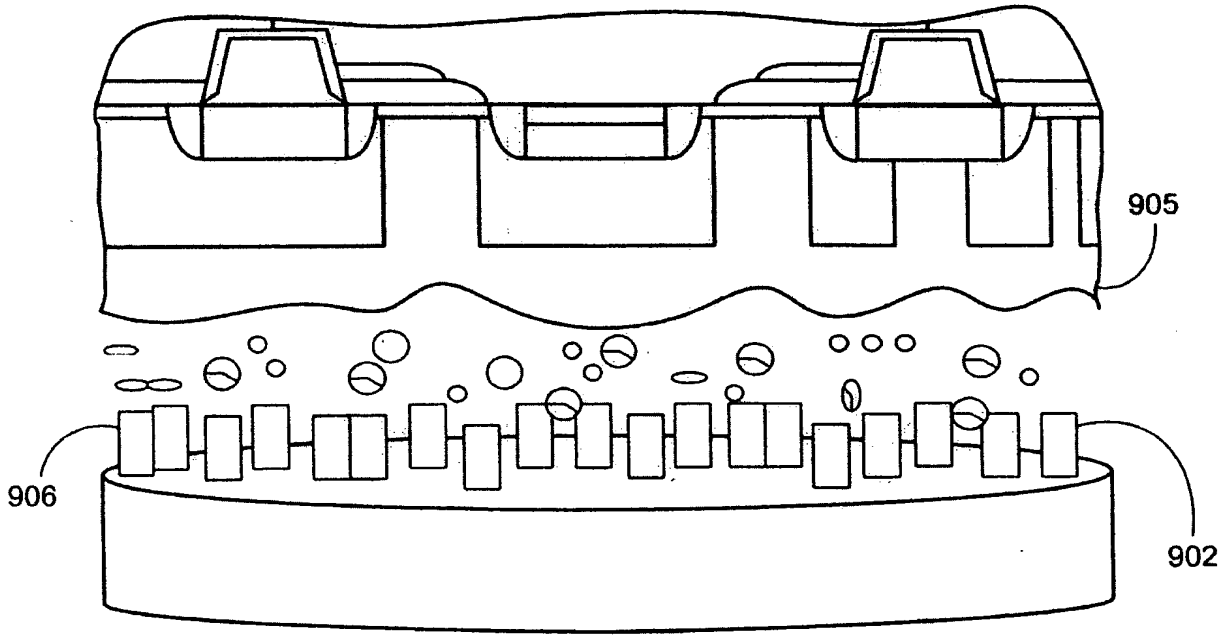


FIG. 10

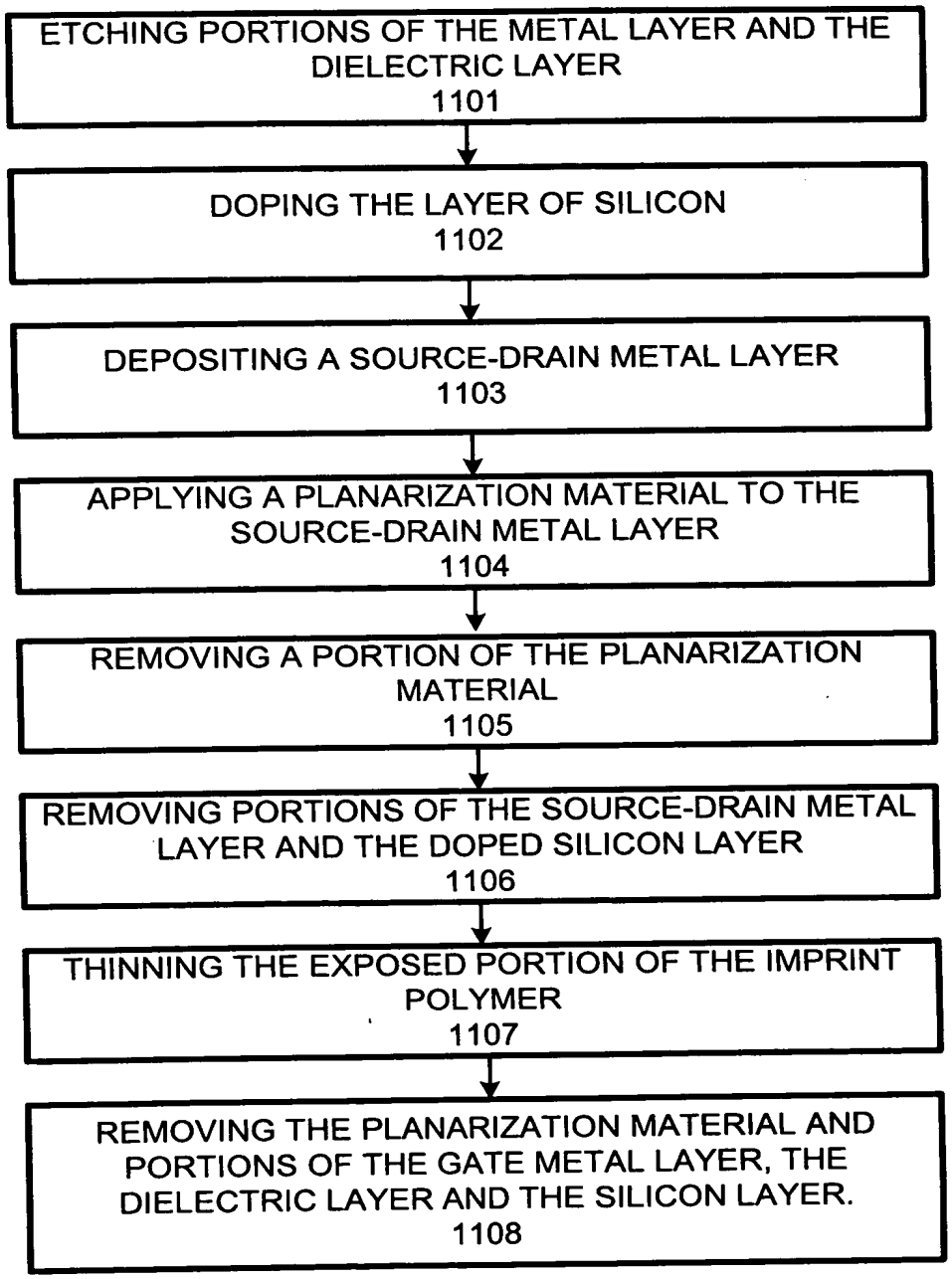

ETCHING PORTIONS OF THE METAL LAYER AND THE DIELECTRIC LAYER
1101
DOPING THE LAYER OF SILICON
1102
DEPOSITING A SOURCE-DRAIN METAL LAYER
1103
APPLYING A PLANARIZATION MATERIAL TO THE SOURCE-DRAIN METAL LAYER
1104
REMOVING A PORTION OF THE PLANARIZATION MATERIAL
1105
REMOVING PORTIONS OF THE SOURCE-DRAIN METAL LAYER AND THE DOPED SILICON LAYER
1106
THINNING THE EXPOSED PORTION OF THE IMPRINT POLYMER
1107
REMOVING THE PLANARIZATION MATERIAL AND PORTIONS OF THE GATE METAL LAYER, THE DIELECTRIC LAYER AND THE SILICON LAYER.
1108

FIG. 11

X-X' Y-Y'

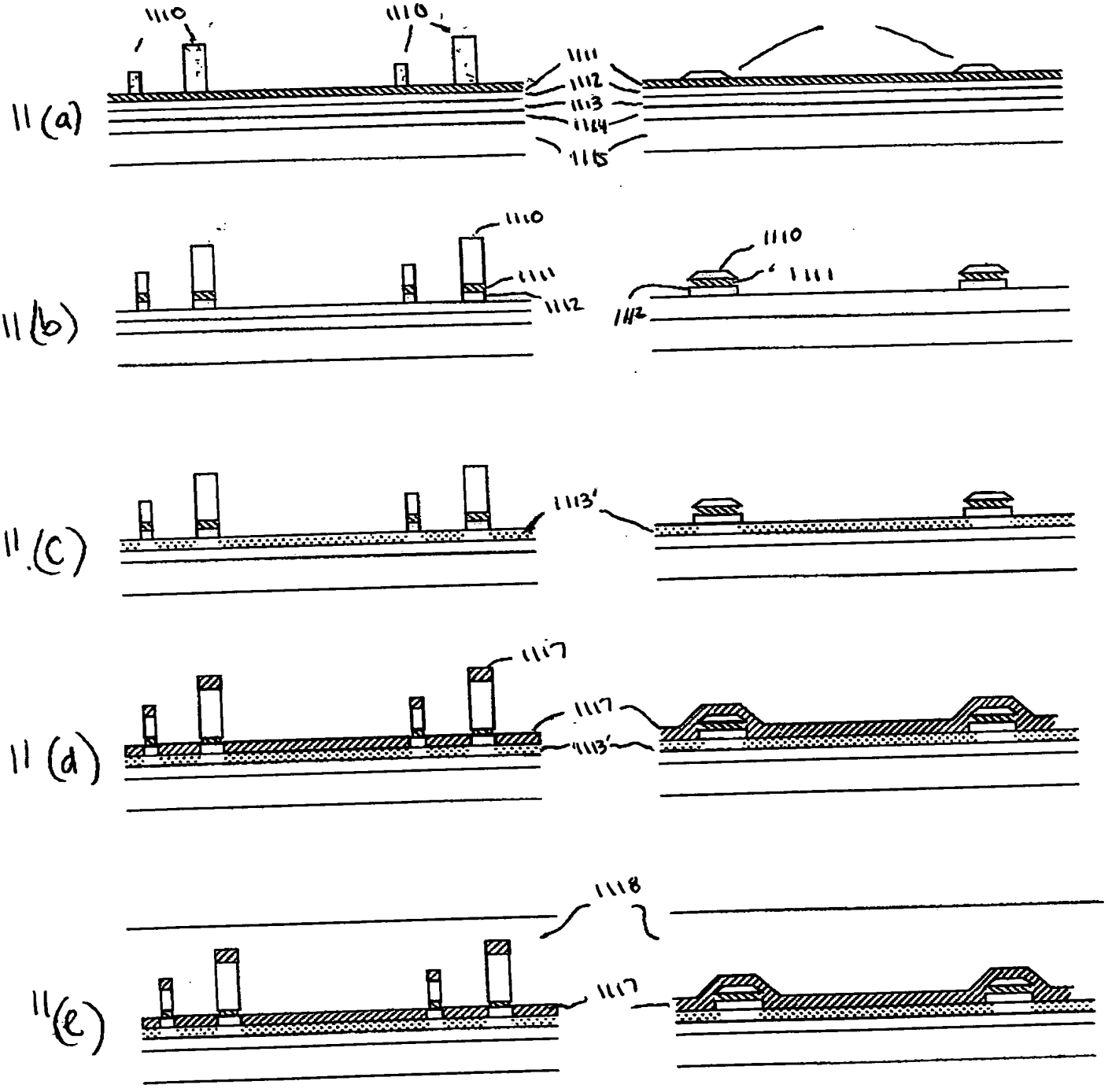

11(a)
1110
1110
1111
1112
1113
1114
1115
11(b)
1110
1111
1112
1110
1111
1112
11(c)
1113'
11(d)
1117
1117
1113'
11(e)
1118
1117

FIG 12

X - X'

Y - Y'

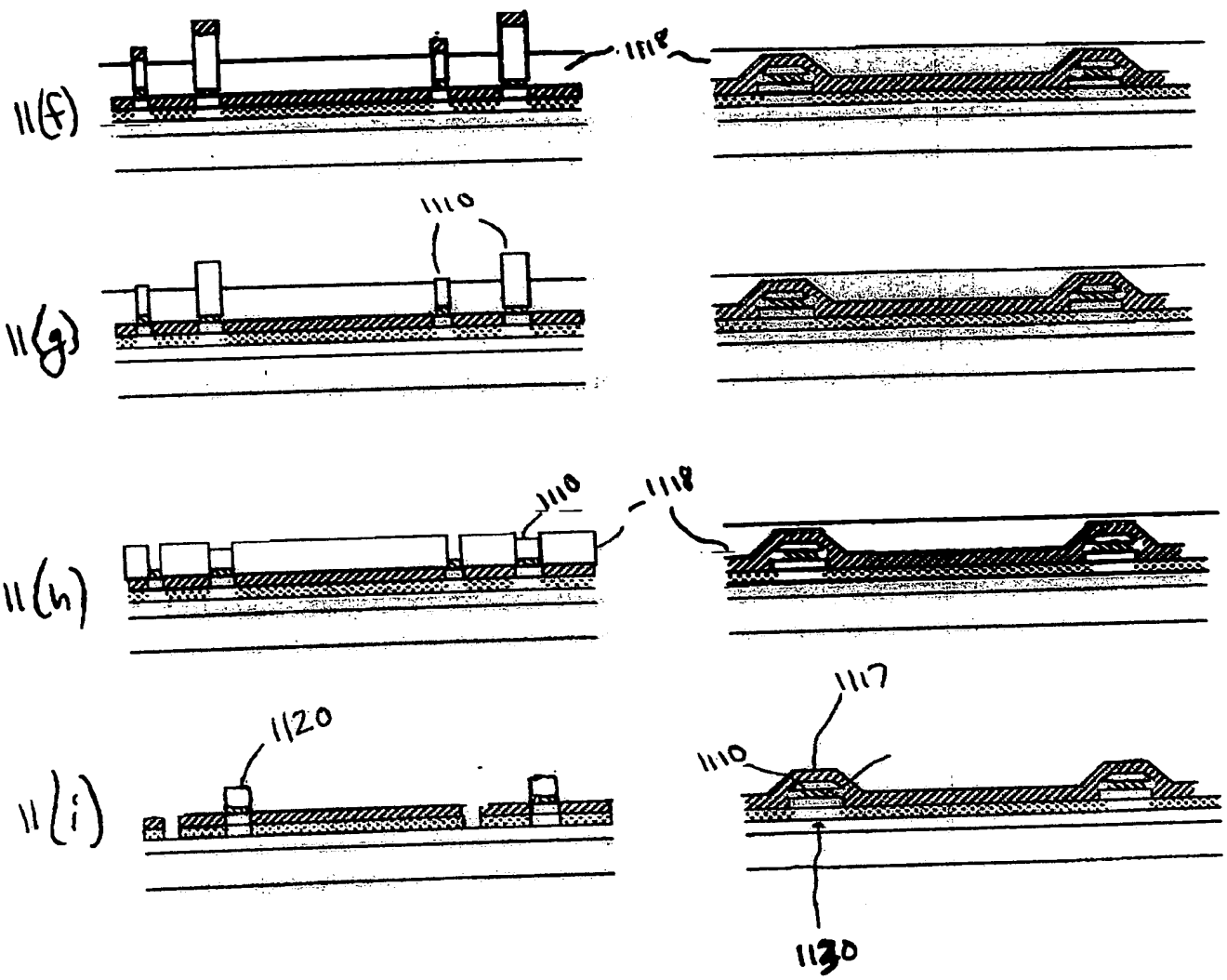


FIG 13